*micro*2R and N1MM Logger+ Setup

Router setup:

Note: The specific port numbers are not important. The key is consistency - the same port number must be used for a specific function in both Router and the logger.

*micro*2R does not provide transceiver control. You will need a CAT/CI-V interface for each radio. They can be anything from traditional serial ports to *micro*HAM *micro*KEYER II. Typical configurations are shown in the *micro*2R User Manual.

1. Assign a port for Control. N1MM Logger+ will use this port to select transmit and receive focus.

2. Assign ports for FSK and check the PTT box.   Check the "Stuff" box (diddle stuffing) if you will be using a COM port from MMTTY or the FSK8250 driver with MMVARI. Uncheck the "Stuff" box if you will be using 2-Tone FSK or EXTFSK with MMTTY/MMVARI.

    Suggestion: If you are using *micro*HAM CAT/CI-V interfaces, use the FSK ports in those devices instead of FSK in *micro*2R.

3. Assign a port for WinKey. Set "Use WinKey PTT" on the PTT & ACC tab.

4. Set "Generate PTT Output" on the PTT & ACC tab.

5. Select "microHAM control protocol on COM port" on the **SO2R** tab. This setting permits N1MM Logggger to control:
   - **Transmit focus**
   - **Receive Focus**
   - **Stereo (Split) Headphones**
     - Stereo receive is commanded by the "`" (grave accent or unshifted tilde key) and the {STEREOON} and {STEREOOFF} macros.
   - **Antenna (Relay) Select**
   - **Band Lockout**
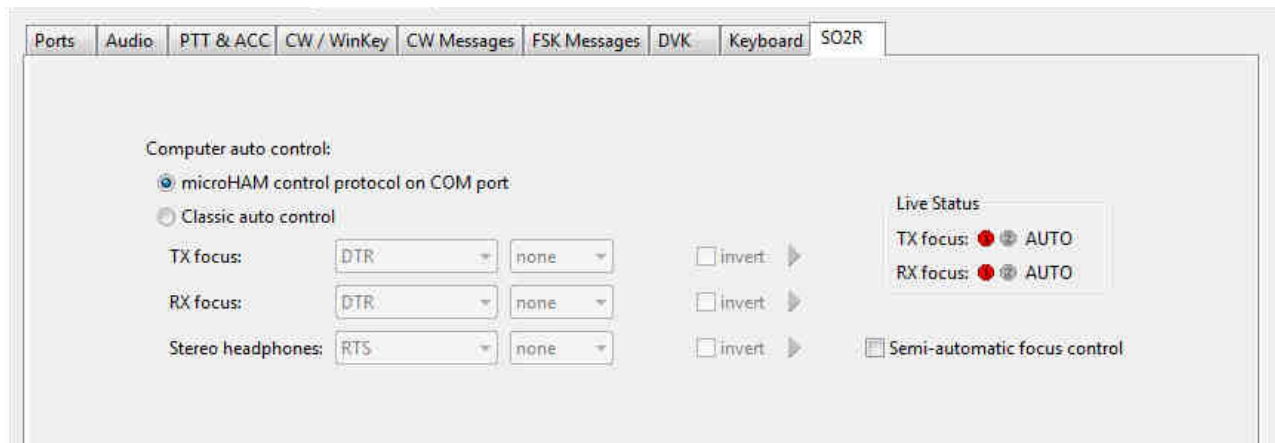
Antenna Relay is simply passed through to the ACCESSORY jack.   *micro*2R provides a four bit (binary) signal to drive a user supplied 1 of 16 decoder for each radio. See the N1MM Logger+ manual for information on configuring the antenna selections.

Band Lockout is driven by the antenna data. In essence, it is a "same antenna" lockout.

6. Save the settings to a preset by selecting menu Preset | Save as. Choose a position and name it N1MM+.

N1MM hardware setup:

1. Click **Config| Configure Ports, Mode Control, Audio, Other ...**

2. Assign each radio to the proper COM port (hardware serial port or USB adapter).

Note: The radio ports are not supported by micro2R and are not created in *micro*HAM Router. Use your own serial ports or USB converters.

3. For each radio port click **<u>Set</u>** and configure the communication parameters for your radios.

4. For both radios, set RTS (pin 7) and DTR (pin 4) to Always Off, **<u>Uncheck</u>** "Enable Both Hardware & Software" and **<u>DO NOT</u>** check any of the "PTT via Radio Command" options.

5. Check Digital for each port defined as FSK in Router.

6. Configure the Digital ports, taking care to associate each port with the correct Radio (Radio Nr) and Digital Interface (Dig Wind Nr).
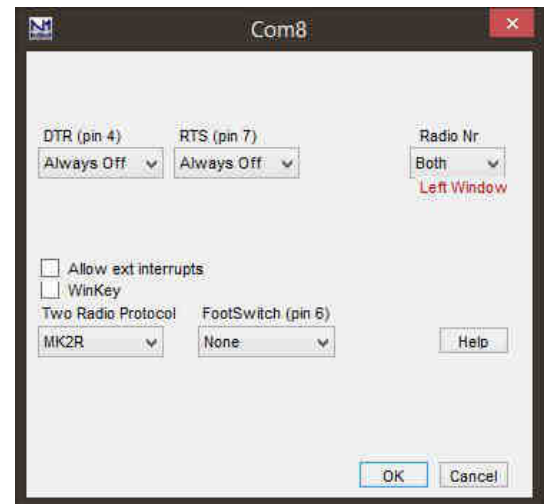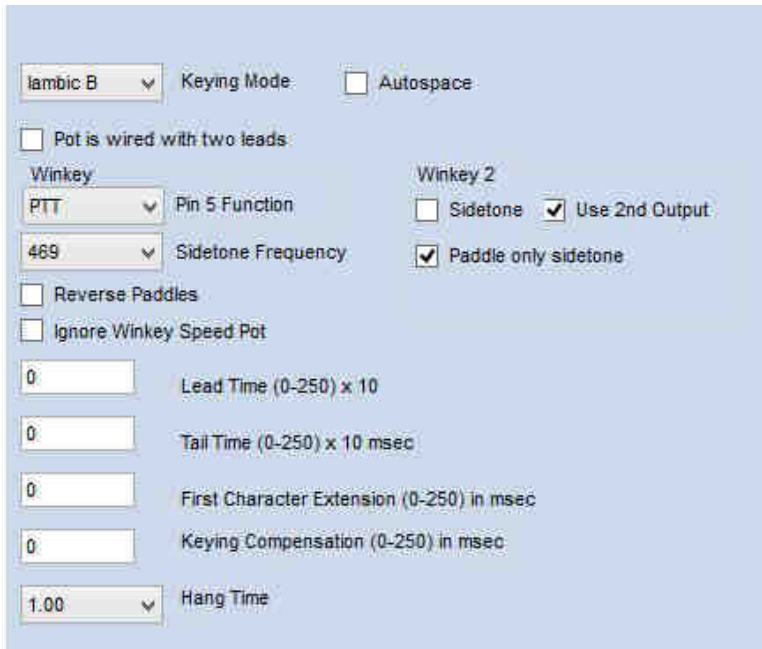
7. Set DTR and RTS to "always Off".

8. Check CW/Other on the port you created for WinKeyer 2 in Router.

9. Click Set, set Radio Nr = Both and check WinKey.

10. Check **CW/Other** for the MK2R Control port, click the **Set** button.

11. Set Radio/VFO to **BOTH** and select **MK2R** for Two Radio Protocol.

12. Select the WinKey tab.

13. "Use 2nd Output" should be checked

14. Pin 5 Function should be PTT unless you are using QSK

Note: Timing parameters are set on the CW/WinKey tab in Router. Router will override any settings made in N1MM Logger+.

15. Select the Audio tab.

16. Configure Audio for "1 – Only use Radio 1 Output Device: Output on both channels"

17. Select Speakers of the sound card you are using with micro2R as the Output and Message Recording Devices.

18. Select "Microphone" as the Port to Mute

19. Select Microphone as the Message Recording Port.

20. Set Recording Channels = 1

21. Set Recording Bits, Sample Rates and Max Recording Length as needed.

22. Click OK to save and close the N1MM Logger+ Hardware Configuration

MMTTY FSK setup:

N1MM Logger Plus supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is based on using MMTTY in FSK mode.
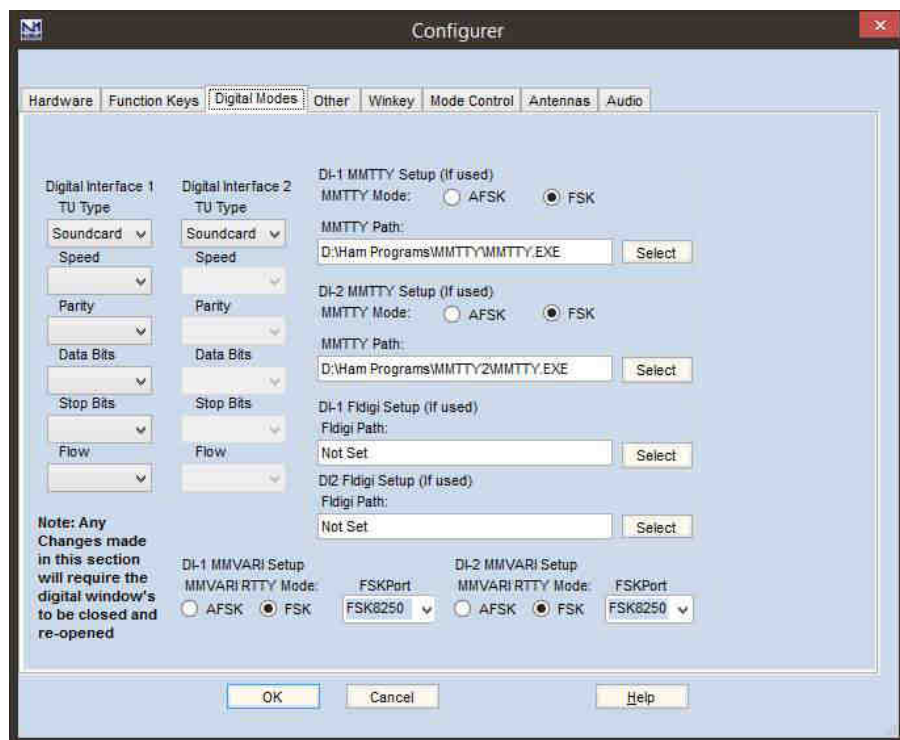
1. Install MMTTY to two *different* directories.

2. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other …**

3. Set TU Type to Soundcard

4. Select FSK as the MMTTY mode for DI-1 and DI-2 if using SO2V.

5. Enter the path to each MMTTY installation.

6. Open the **Mode Control** tab

7. Select the method to determine the mode to log.

8. Set the appropriate RTTY and PSK modes for your transceivers.

Note: See the N1MM Logger Help files for the supported RTTY and PSK modes for each transceiver.

9. Click "OK" to save the settings and close the Mode Control.

10. Activate the left Entry Window (Radio 1) and enter RTTY to open DI 1.

11. Click Setup | Settings and set Preferred RTTY Interface to MMTTY and Preferred PSK Interface to MMVARI.

12. Click **Setup | Setup MMTTY** in the DI-1 menu.

| Demodulator | AFC/ATC/PLL | Decode | TX | Font/Window | Misc | SoundCard |

Reception
- ○ Microphone Array (Realtek High
- ○ Microphone (USB Audio)
- ● Line (USB Audio)
- ○

Transmission
- ○ Speakers (Realtek High Definiti
- ● Speakers (USB Audio)
- ○ SPDIF Interface (USB Audio)
- ○
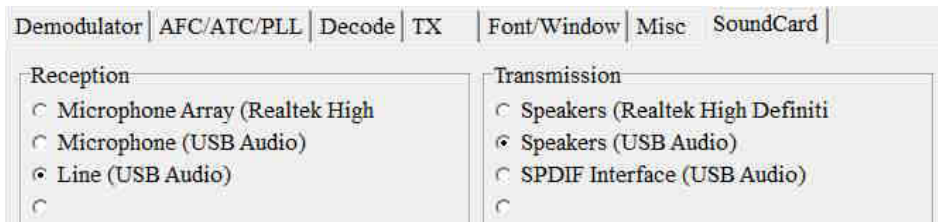
13. Select the "SoundCard" tab.

14. Select the Line input of the sound card connected to your transceivers for Reception.

15. Select the TX tab

16. Set PTT & FSK to the port used for Radio 1 FSK.

17. Select the Misc Tab

| Demodulator | AFC/ATC/PLL | Decode | TX | Font/Window | Misc | SoundCard |

DIDDLE
- ○ NONE
- ○ BLK
- ● LTR
- □ Random
- □ WaitTimer

TX
- ☑ UOS
- □ Double shift
- □ Disable Wait
- □ Disable Rev
- □ Always fix shift

Digital Output

Char. Wait   Diddle Wait

PTT & FSK
- Port COM6
- □ Invert Logic
- Radio command

Setup Ver1.68A

| Demodulator | AFC/ATC/PLL | Decode | TX | Font/Window | Misc | SoundCard |

Sound Card

FIFO
RX 12   TX 4

Priority
- ○ Normal   ○ Highest
- ● Higher   ○ Critical

Device Identifiers
RX 2
TX 1

Source
- ○ Mono   ○ Right
- ● Left

Clock
12000 Hz Adj
0.00 Hz
Tx offset

Sound loopback
- ○ OFF
- ● Int.
- ○ Ext.(SAT)
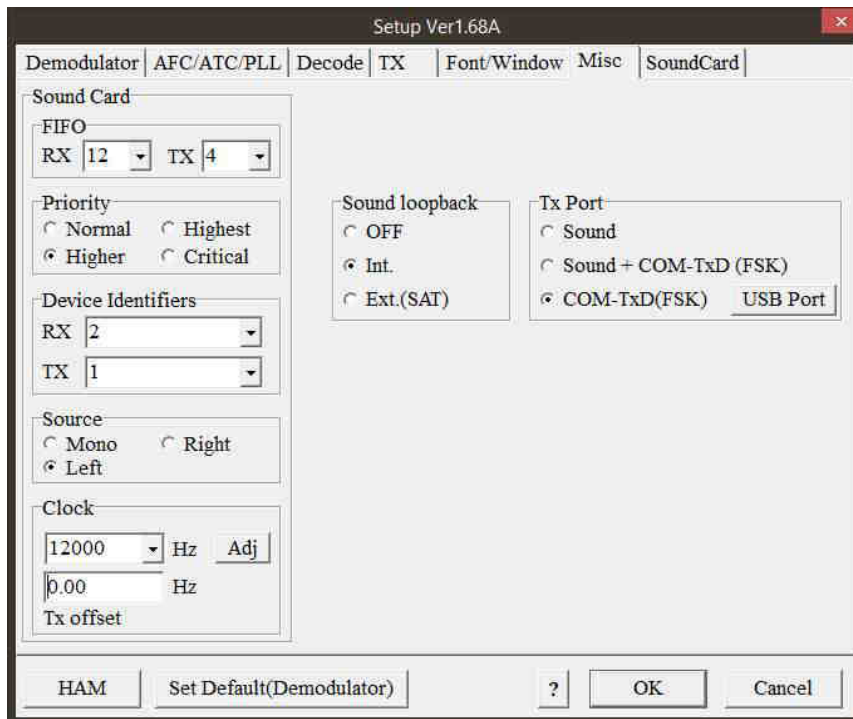
Tx Port
- ○ Sound
- ○ Sound + COM-TxD (FSK)
- ● COM-TxD(FSK)   USB Port

HAM   Set Default(Demodulator)   ?   OK   Cancel

18. Set Source = Left

19. Set Tx Port to COM-TxD(FSK)

20. Set Clock = 12000 Hz

21. Click the **USB port** button, choose **C: Limiting speed** and click OK

USB Port Option

Processing method
- ○ A: Normal
- ○ B: Polling
- ● C: Limiting speed
- ○ D: Polling and Limiting speed

Please try to test B, C, D, if you have a trouble in the USB-COM adaptor. (C)Limiting speed seems to be well.

OK   Cancel

22. Click "OK" on the Misc tab to close the MMTTY Set-up for Radio 1

23. Activate the right Entry Window (Radio 2) and enter RTTY to open DI-2.

24. Click **Setup | Setup MMTTY** in the DI-2 Menu.

| Demodulator | AFC/ATC/PLL | Decode | TX | Font/Window | Misc | SoundCard |

Reception
- ○ Microphone Array (Realtek High
- ○ Microphone (USB Audio)
- ● Line (USB Audio)
- ○

Transmission
- ○ Speakers (Realtek High Definiti
- ● Speakers (USB Audio)
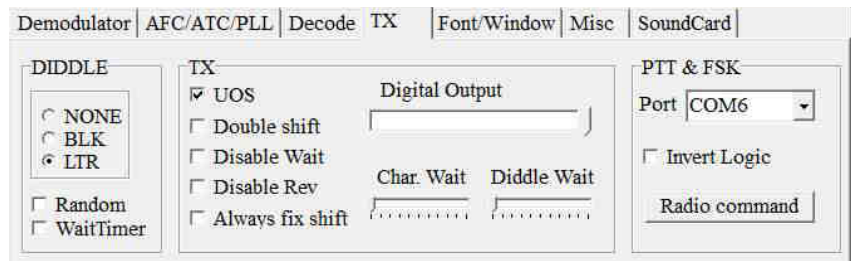- ○ SPDIF Interface (USB Audio)
- ○

25. Select the "SoundCard" tab.

26. Select the Line input of the sound card connected to your transceivers for Reception.

27. Select the TX tab

28. Set PTT & FSK to the port used for Radio 2 FSK.
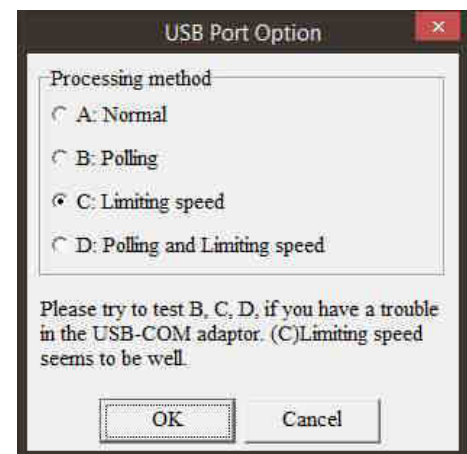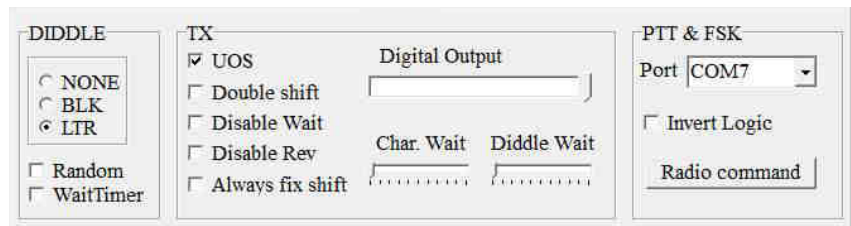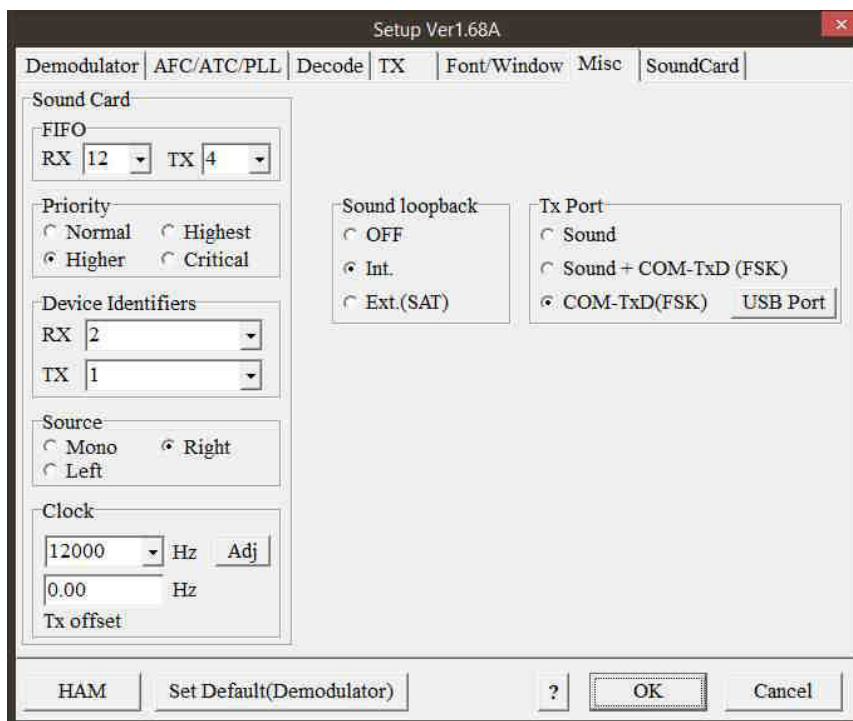
29. Select the Misc Tab

DIDDLE
- ○ NONE
- ○ BLK
- ● LTR
- ☐ Random
- ☐ WaitTimer

TX
- ☑ UOS
- ☐ Double shift
- ☐ Disable Wait
- ☐ Disable Rev
- ☐ Always fix shift

Digital Output

Char. Wait   Diddle Wait

PTT & FSK
Port COM7
☐ Invert Logic
Radio command

Setup Ver1.68A ✕

| Demodulator | AFC/ATC/PLL | Decode | TX | Font/Window | Misc | SoundCard |

Sound Card

FIFO
RX 12   TX 4

Priority
- ○ Normal   ○ Highest
- ● Higher   ○ Critical

Device Identifiers
RX 2
TX 1

Source
- ○ Mono   ● Right
- ○ Left

Clock
12000 Hz   Adj
0.00 Hz
Tx offset

Sound loopback
- ○ OFF
- ● Int.
- ○ Ext.(SAT)

Tx Port
- ○ Sound
- ○ Sound + COM-TxD (FSK)
- ● COM-TxD(FSK)   USB Port

HAM   Set Default(Demodulator)   ?   OK   Cancel

30. Select **Source = Right**

31. Set Tx Port to COM-TxD(FSK)

32. Set Clock = 12000 Hz

33. Click **USB port** button, choose **C: Limiting speed** and click OK

USB Port Option ✕

Processing method
- ○ A: Normal
- ○ B: Polling
- ● C: Limiting speed
- ○ D: Polling and Limiting speed

Please try to test B, C, D, if you have a trouble in the USB-COM adaptor. (C)Limiting speed seems to be well.

OK   Cancel

34. Click "OK" on the Misc tab to close the Set-up for DI 2
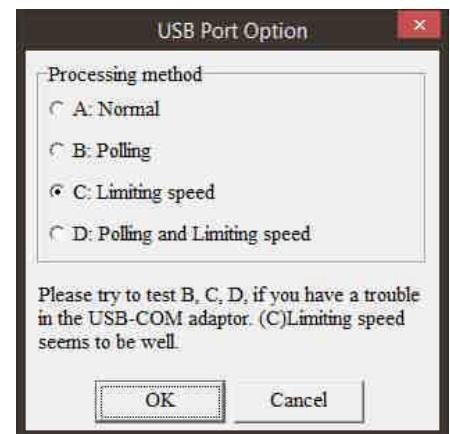
MMTTY setup (AFSK):

N1MM Logger Plus upports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is based on using MMTTY in AFSK mode.

AFSK does not require a digital port for each radio. If you will be using only AFSK and PSK, it is not necessary to define "Digital" ports on the N1MM "Hardware" tab or FSK ports in Router.
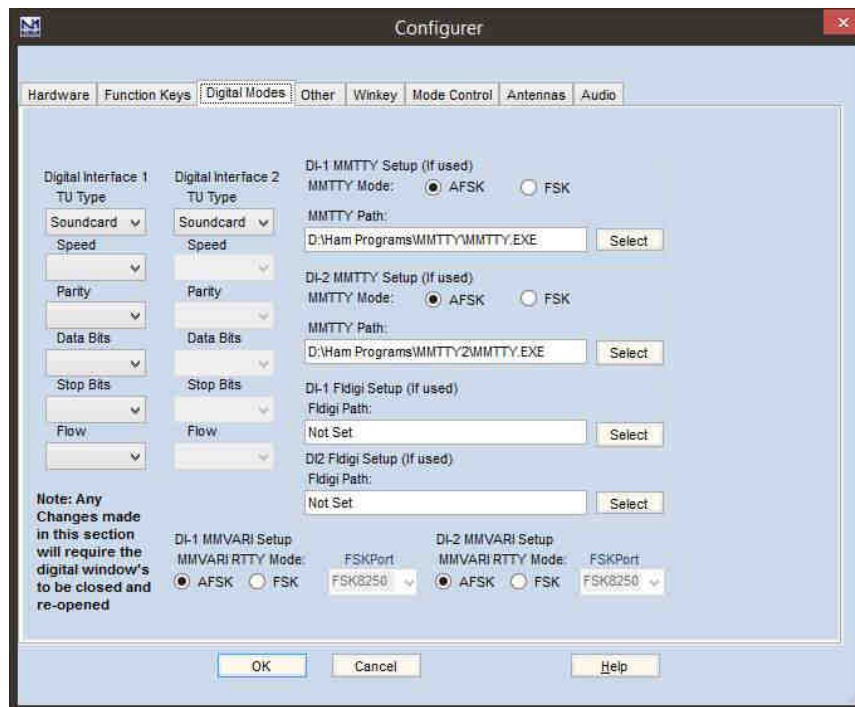
1. Install MMTTY to two _different_ directories.

2. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other …**.

3. Set the TU Type to Soundcard

4. select AFSK as the MMTTY mode for both DI-1 and DI-2.

5. Enter the path to each copy of MMTTY.

6. Open the **Mode Control** tab

7. Select the method to determine the mode recorded in the log.

8. Set the appropriate RTTY and PSK modes for your transceivers.

Note: See the N1MM Logger Plus Help files for a list of supported RTTY and PSK modes for each transceiver.

9. Click OK to Close the Mode Control window and save the configuration.

10. Activate the left Entry Window (Radio 1) and enter RTTY to open DI 1.

11. Click Setup | Settings and set Preferred RTTY Interface to MMTTY and Preferred PSK Interface to MMVARI.

12. Click **Setup | Setup MMTTY** in the DI-1 menu.

Demodulator	AFC/ATC/PLL	Decode	TX	Font/Window	Misc	SoundCard

Reception	Transmission
○ Microphone Array (Realtek High	○ Speakers (Realtek High Definiti
○ Microphone (USB Audio)	● Speakers (USB Audio)
● Line (USB Audio)	○ SPDIF Interface (USB Audio)
○	○

13. Select the "SoundCard" tab.

14. Select the Line input of the sound card connected to Radio 1 for Reception.

15. Select the Speaker output of the sound card connected to Radio 1 for Transmission.

16. Select the TX Tab

17. Set PTT & FSK Port = None

18. Check TX BPF

19. Set Tap = 512 and Freq = 100 Hz to filter the transmitted audio and minimize QRM.

DIDDLE
- ○ NONE
- ○ BLK
- ● LTR
- ☐ Random
- ☐ WaitTimer

TX
- ☑ UOS
- ☐ Double shift
- ☐ Disable Wait
- ☐ Disable Rev
- ☐ Always fix shift

Digital Output

Char. Wait   Diddle Wait

PTT & FSK
Port NONE
☐ Invert Logic
Radio command

TxBPF/TxLPF
- ☑ Tx BPF   Tap 512   f
- ☐ Tx LPF   Freq 100   Hz

Priority
- ○ Normal   ○ Highest
- ● Higher   ○ Critical

Device Identifiers
- RX 2
- TX 1

Source
- ○ Mono   ○ Right
- ● Left

Clock
- 12000 Hz   Adj
- 0.00 Hz
- Tx offset

Sound loopback
- ○ OFF
- ● Int.
- ○ Ext.(SAT)

Tx Port
- ● Sound
- ○ Sound + COM-TxD (FSK)
- ○ COM-TxD(FSK)

20. Select the Misc Tab

21. Select **Source = Left**

22. Set Clock = 12000 Hz

23. Set Tx Port to **Sound**.

24. Click "OK" to close MMTTY Set-up for Radio 1

25. Activate the right Entry Window (Radio 2) and Enter RTTY to open DI 2.

26. If necessary, click on **Interface | MMTTY** to activate the MMTTY interface.

27. Click **Setup | Setup MMTTY** in the DI-2 menu.

Demodulator	AFC/ATC/PLL	Decode	TX	Font/Window	Misc	SoundCard

Reception	Transmission
○ Microphone Array (Realtek High	○ Speakers (Realtek High Definiti
○ Microphone (USB Audio)	● Speakers (USB Audio)
● Line (USB Audio)	○ SPDIF Interface (USB Audio)
○	○

28. Select the "SoundCard" tab.

29. Select the Line input of the sound card connected to Radio 2 for Reception.
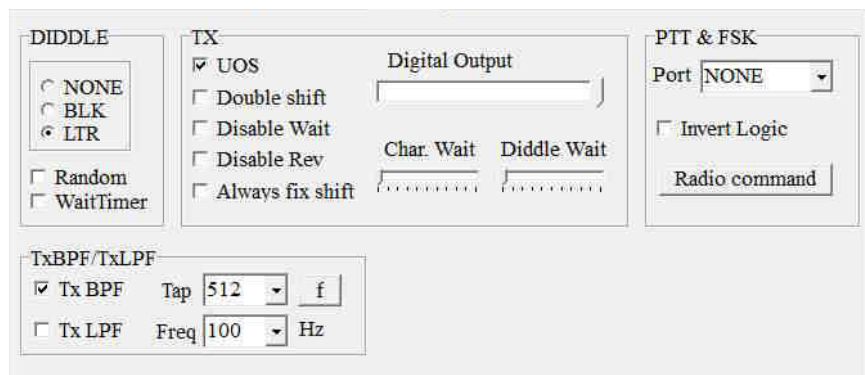
30. Select the Speaker output of the sound card connected to Radio 2 for Transmission.
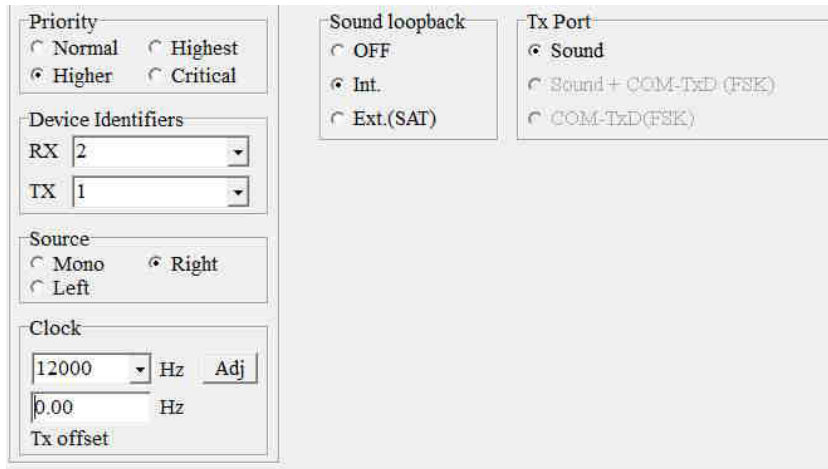
31. Select the TX Tab

32. Set PTT & FSK Port = None

33. Check TX BPF

34. Set Tap = 512 and Freq =
100 Hz to filter the
transmitted audio and
minimize QRM.

DIDDLE
- NONE
- BLK
- ◉ LTR
- ☐ Random
- ☐ WaitTimer

TX
- ☑ UOS
- ☐ Double shift
- ☐ Disable Wait
- ☐ Disable Rev
- ☐ Always fix shift

Digital Output

Char. Wait   Diddle Wait

PTT & FSK
Port NONE
☐ Invert Logic
Radio command

TxBPF/TxLPF
- ☑ Tx BPF   Tap 512   f
- ☐ Tx LPF   Freq 100   Hz

Priority
- ◯ Normal   ◯ Highest
- ◉ Higher   ◯ Critical

Device Identifiers
RX 2
TX 1

Source
- ◯ Mono   ◉ Right
- ◯ Left

Clock
12000   Hz   Adj
0.00   Hz
Tx offset

Sound loopback
- ◯ OFF
- ◉ Int.
- ◯ Ext.(SAT)

Tx Port
- ◉ Sound
- ◯ Sound + COM-TxD (FSK)
- ◯ COM-TxD(FSK)

35. Select the Misc Tab

36. Select **Source = Right**

37. Set Clock = 12000 Hz

38. Set Tx Port to **Sound**

39. Click "OK" to close MMTTY
Setup for Radio 2.

FSK/PSK31 with MMVARI:

N1MM Logger supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is for **FSK RTTY** and PSK using MMVARI.

FSK requires a digital port for each radio (DI). Be sure you have defined Digital ports for each radio in the N1MM "Hardware" tab and FSK ports in Router.
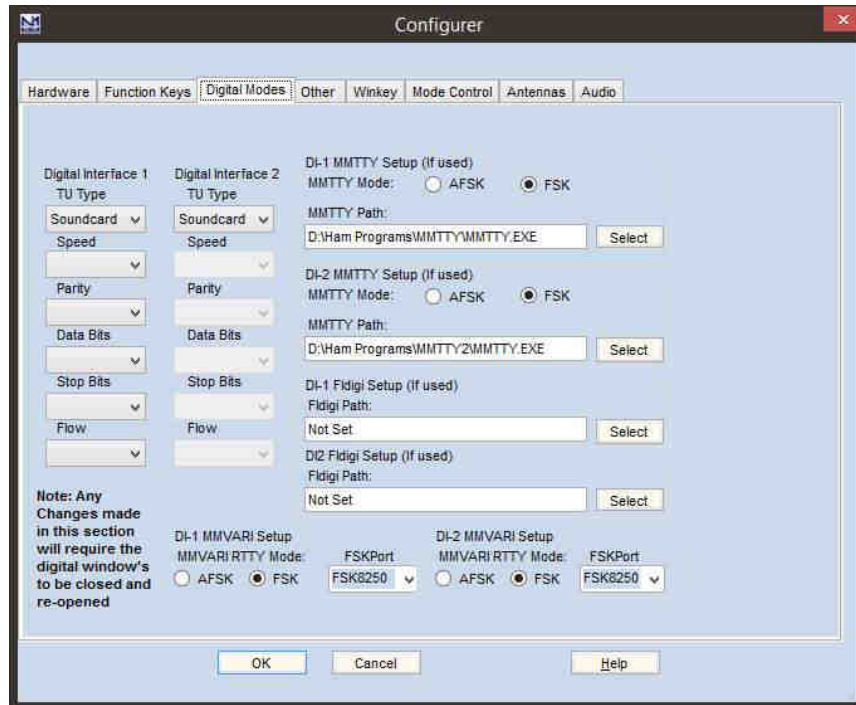

1. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other ...**.

2. Set the TU Type to Soundcard

3. select FSK as the MMVARI RTTY mode for both DI-1 and DI-2.

4. Set the FSK Port to FSK8250 for both DI-1 and DI-2

5. Open the **Mode Control** tab

6. Open the **Mode Control** tab

7. Select the method to determine the mode to log.

8. Set the appropriate RTTY and PSK modes for your transceivers.

Note: See the N1MM Logger Plus Help files for the supported RTTY and PSK modes for each transceiver.

9. Click "OK" to save the settings and close the Mode Control.

10. Activate the left Entry Window (Radio 1) and enter PSK.

11. Click **Setup | Settings** and select MMVARI as the Default RTTY Interface and MMVARI as the Default PSK Interface.

12. Select **MMVARI Setup.**
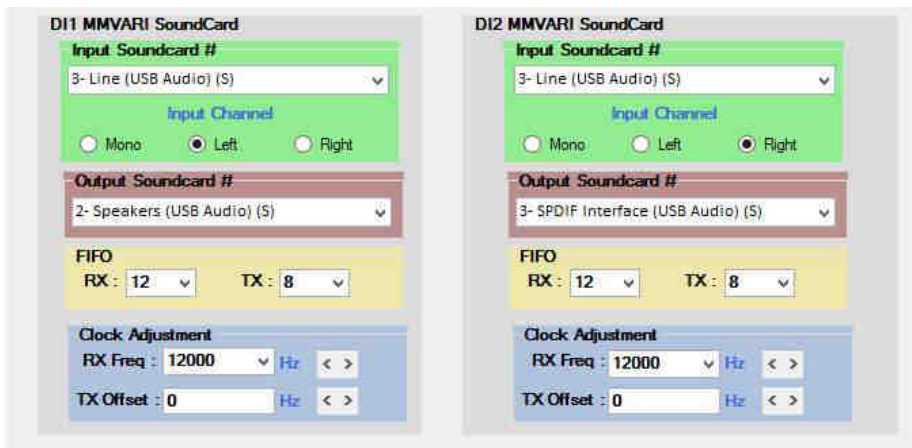
13. Select Soundcard Setup.

14. Set DI1 MMVARI SoundCard: Input Soundcard # to Liine of the sound card connected to Radio 1 and select the **Left** Input.

15. Set DI1 MMVARI SoundCard: Output Soundcard # to Speakers of the sound card connected to Radio 1.

16. Set DI1 MMVARI SoundCard: Clock Adjustment to 12000 Hz.

17. Set DI2 MMVARI SoundCard: Input Soundcard # to "Liine of the sound card connected to Radio 2 and select the **Right** Input.

18. Set DI2 MMVARI SoundCard: Output Soundcard # to "Speakers of the sound card connected to Radio 2.

19. Set DI2 MMVARI SoundCard: Clock Adjustment to 12000 Hz

20. Save the configuration.
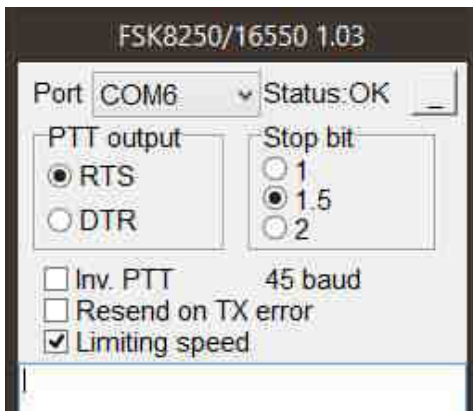
21. Select RTTY-L mode in MMVARI in DI-1 or enter RTTY in Entry Window 1

22. Select the MMVARIFSK1 window from the Windows Task Bar.

23. Set Port to the FSK port for Radio 1

24. Set PTT output to RTS

25. Check Limiting Speed

26. Return the MMVARIFSK1 window to the Task Bar.

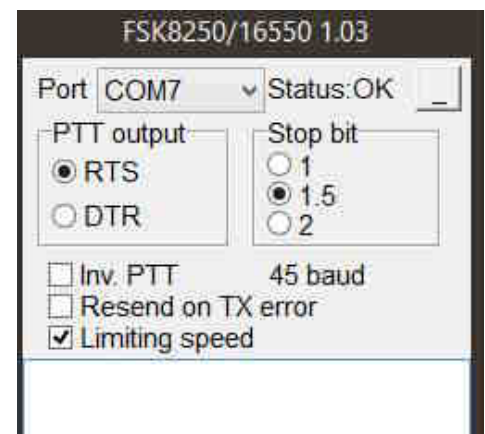27. Select RTTY-L mode in MMVARI in DI-2 or enter RTTY in Entry Window 2

28. Select the MMVARIFSK2 window from the Windows Task Bar.

29. Set Port to the FSK port for Radio 2.

30. Set PTT output to RTS

31. Check Limiting Speed

32. Return the MMVARIFSK2 window to the Task Bar.

AFSK/PSK31 with MMVARI:

N1MM Logger supports the MMTTY Engine, MMVARI, 2-Tone and/or an external TNC for RTTY contesting. This configuration is for **AFSK RTTY** and PSK with MMVARI.

AFSK and PSK do not require the use of a digital port for each radio. Do not configure a Digital Port in N1MM Logger or a FSK Port in Router.
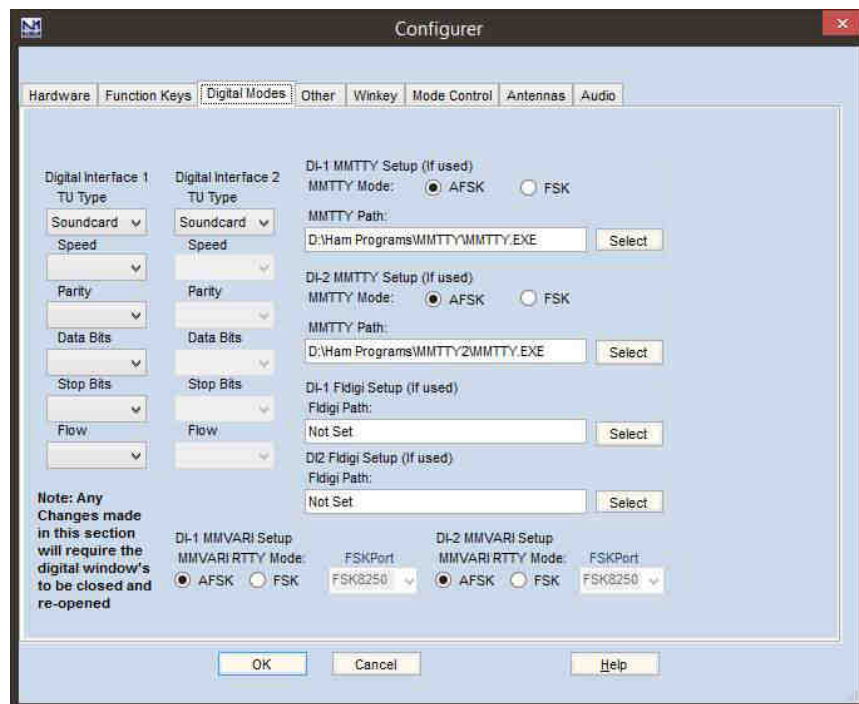
1. Select the **Digital Modes** tab in **Configure Ports, Mode Control, Audio, Other …**.

2. Set the TU Type to Soundcard

3. select AFSK as the MMVARI RTTY mode for both DI-1 and DI-2.

4. Open the **Mode Control** tab

5. Select the method to determine the mode recorded in the log.

6. Set the appropriate RTTY and PSK modes for your trnsceiver.

    Note: See the N1MM Logger Plus Help files for a list of supported RTTY and PSK modes for each transceiver.
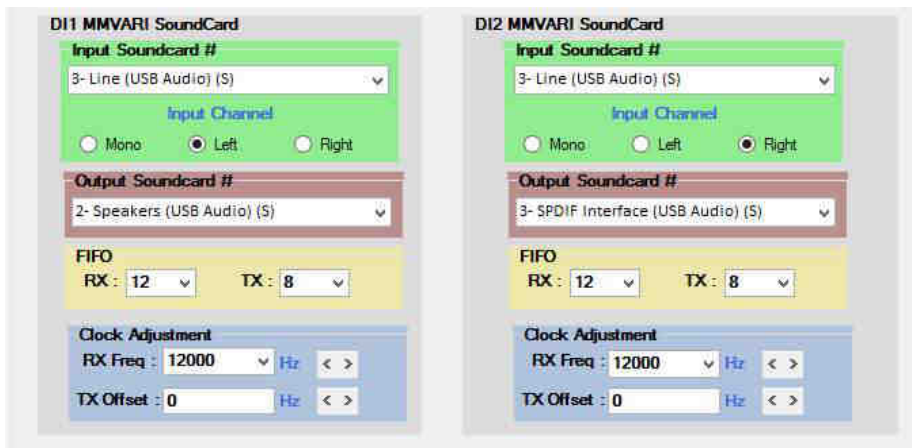

7. Click OK to Close the Mode Control window and save the configuration.

8. Activate the left Entry Window (Radio 1) and enter PSK.

9. Click **Setup | Settings** and select MMVARI as the Default RTTY Interface and MMVARI as the Default PSK Interface.

10. Select **MMVARI Setup.**

11. Select Soundcard Setup.

12. Set DI1 MMVARI SoundCard: Input Soundcard # to Line of the sound card connected to Radio 1 and select the **Left** Input.

13. Set DI1 MMVARI SoundCard: Output Soundcard # to Speakers of the sound card connected to Radio 1.

14. Set DI1 MMVARI SoundCard: Clock Adjustment to 12000 Hz.

15. Set DI2 MMVARI SoundCard: Input Soundcard # to Line of the sound card connected to Radio 2 and select the **Right** Input.

16. Set DI2 MMVARI SoundCard: Output Soundcard # to Speakers of the sound card connected to Radio 2.

17. Set DI2 MMVARI SoundCard: Clock Adjustment to 12000 Hz

18. Save the configuration.